United States
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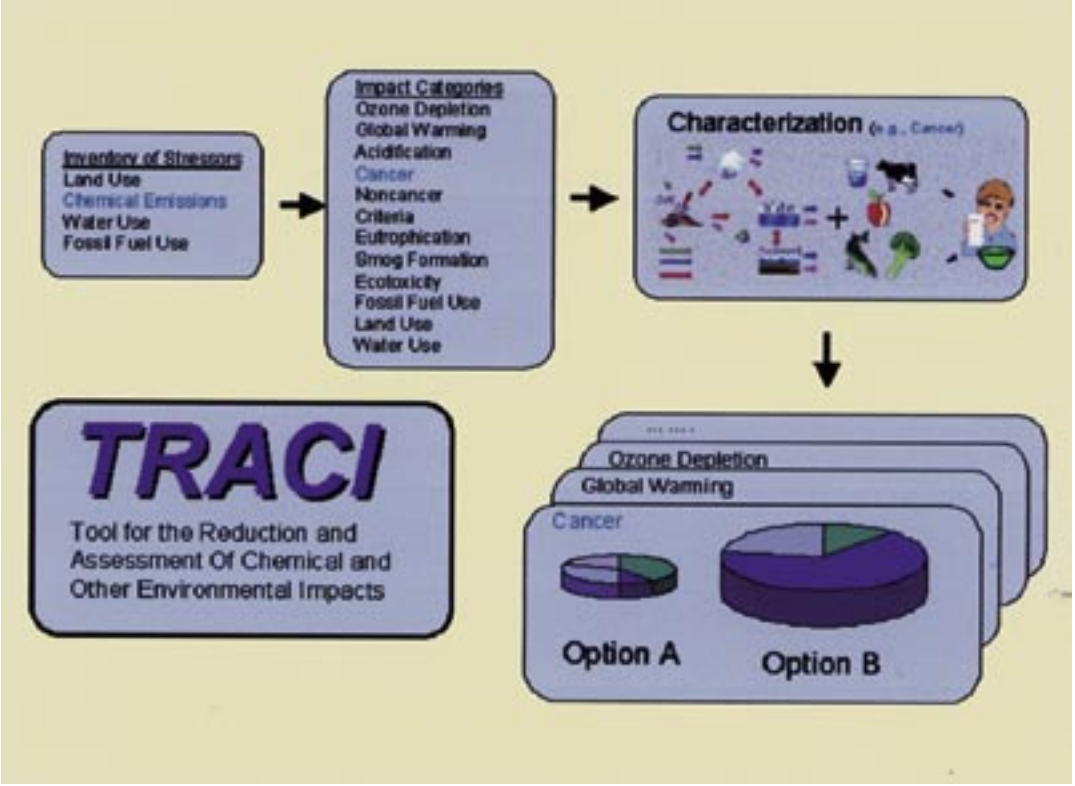
Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI): User's Guide and System Documentation



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Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI): User's Guide and System Documentation

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Disclaimer

Use of TRACI (the Tool for the Reduction and Assessment of Chemical and other environmental Impacts), including but not limited to the impact assessment modeling, does not confer legal rights or impose legal obligations upon any member of the public. Furthermore, it does not release users from any potential liability, either administrative or judicial for any damage to human health or the environment.

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Foreword

The U.S. Environmental Protection Agency (EPA) is charged by Congress with protecting the Nation's land, air, and water resources. Under a mandate of national environmental laws, the Agency strives to formulate and implement actions leading to a compatible balance between human activities and the ability of natural systems to support and nurture life. To meet this mandate, EPA's research program is providing data and technical support for solving environmental problems today and building a science knowledge base necessary to manage our ecological resources wisely, understand how pollutants affect our health, and prevent or reduce environmental risks in the future.

The National Risk Management Research Laboratory (NRMRL) is the Agency's center for investigation of technological and management approaches for preventing and reducing risks from pollution that threaten human health and the environment. The focus of the Laboratory's research program is on methods and their cost-effectiveness for prevention and control of pollution to air, land, water, and subsurface resources; protection of water quality in public water systems; remediation of contaminated sites, sediments and ground water; prevention and control of indoor air pollution; and restoration of ecosystems. NRMRL collaborates with both public and private sector partners to foster technologies that reduce the cost of compliance and to anticipate emerging problems. NRMRL's research provides solutions to environmental problems by: developing and promoting technologies that protect and improve the environment; advancing scientific and engineering information to support regulatory and policy decisions; and providing the technical support and information transfer to ensure implementation of environmental regulations and strategies at the national, state, and community levels.

This publication has been produced as part of the Laboratory's strategic long-term research plan. It is published and made available by EPA's Office of Research and Development to assist the user community and to link researchers with their clients.

Hugh W. McKinnon, Director
National Risk Management Research Laboratory

Abstract

TRACI allows the examination of the potential for impacts associated with the raw material usage and chemical releases resulting from the processes involved in producing a product. TRACI allows the user to examine the potential for impacts for a single life cycle stage, or the whole life cycle, and to compare the results between products or processes.

The purpose of TRACI is to allow a determination of priorities or a preliminary comparison of two or more options on the basis of the following environmental impact categories: ozone depletion, global warming, acidification, eutrophication, photochemical smog, human health cancer, human health noncancer, human health criteria, ecotoxicity, fossil fuel use, land use, and water use. TRACI is an impact assessment tool that will support consistency in environmental decision making. It is recognized that additional tools may be useful to assess, prioritize and reduce potential environmental impacts. This user's guide presents information to assist in the use of, limitations and uncertainties associated with, and information concerning, the methodologies within TRACI.

For more information regarding TRACI, please contact:

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Acronyms

CAS	Chemical Abstract Service
EPA	Environmental Protection Agency
g	Gram
gal	Gallon
ISO	International Organization for Standardization
kg	Kilogram
L	Liter
lb	Pound
LC	Life Cycle
LCI	Life Cycle Inventory
LCIA	Life Cycle Impact Assessment
LCA	Life Cycle Assessment
M^3	Cubic Meter
mg	Milligram
MJ	Mega Joule
Qty	Quantity
scf	Standard Cubic Foot
SETAC	Society of Environmental Toxicology and Chemistry
sq.ft	Square Foot
sq.km	Square Kilometer
sq.mi	Square Mile
T&E	Threatened and Endangered Species
TRACI	Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts
UOM	Unit of Measurement

Acknowledgments

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